

Date: Thursday, 11/12/2008 11:54:22 AM  
 User: Linda Lacelle

## Process Sheet

|   |                                       |
|---|---------------------------------------|
| Customer : CU-DAR001 Dart Helicopters Services      | Drawing Name : CLIP                   |
| Job Number : 44025                                  |                                       |
| Estimate Number : 11556                             |                                       |
| P.O. Number :                                       | Part Number : D30821                  |
| This Issue : 11/12/2008 S.O. No. :                  | Drawing Number : D3082 REV A          |
| Prsht Rev. : NC                                     | Project Number : N/A                  |
| First Issue : / / Type : PURCHASED PARTS            | Drawing Revision : A                  |
| Previous Run : 40852                                | Material :                            |
| Written By : <u>                    </u>            | Due Date : 18/12/2008 Qty: 9 Um: Each |
| Checked & Approved By : <u>                    </u> |                                       |
| Comment : Est: B 02.05.11 Added step 3 NG           |                                       |

## Additional Product

Job Number:



|         |                       |               |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

|     |             |                       |
|-----|-------------|-----------------------|
| 1.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|-----|-------------|-----------------------|



Comment: PACKAGING RESOURCE #1

PULL FROM STOCK:

u 8.12.11

9 X 1722A43 CLIPS B107659

|     |         |      |
|-----|---------|------|
| 2.0 | 1722A43 | clip |
|-----|---------|------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 9.0000 Each(s)  
 CLIP

m-1 08/12/11

(9x)

|     |                |                |
|-----|----------------|----------------|
| 3.0 | POWDER COATING | POWDER COATING |
|-----|----------------|----------------|



Comment: POWDER COATING  
 Powder Coat White Gloss (Ref: 4.3.5.2 Steel) as per QSI 005 4.3

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

3'-50  
 400 05"  
 4'-20

m-1 08/12/11

(4x)

|     |     |   |
|-----|-----|---|
| 4.0 | QC3 | INSPECT POWDER COAT/CHEMICAL CONVERSION |
|-----|-----|---|



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

m-1 08/12/12

(9/10)

|     |             |                       |
|-----|-------------|-----------------------|
| 5.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|-----|-------------|-----------------------|



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

ST63

SS 08/12/12 (V9)

Dart Aerospace Ltd

| W/O:     |      | WORK ORDER CHANGES  |    |          |     |                                     |                          |
|----------|------|---|----|----------|-----|-------------------------------------|--------------------------|
| DATE     | STEP | PROCEDURE CHANGE  | By | Date     | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
| 08.12.12 | 4.5  | FLATTEN BOTTOM OF CLIP. OPEN HOLE TO $\phi$ 0.203.  | SB | 08/12/15 | 9   | CP<br>08.12.12<br>per<br>QSI 642    | 5/12/16                  |
| 08.12.12 | 1    | OK TO USE ARTHUR PLATT CO. P/N 1722A43.<br><br>EQUIVALENT TO #1-B Adjustable clip<br>PER INSPECTION BY CP. 08.12.17 | W  | 08/12/15 | 9   | CP<br>08.12.12<br>per<br>QSI 642    | 08.12.17                 |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Thursday, 11/12/2008 11:54:22 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CLIP

Job Number: 44025

Part Number: D30821

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/12/17-17

Job Completion



MF 08-12-17



|                  |                |   |                        |
|------------------|----------------|---|------------------------|
| DESIGN<br>CP     | DRAWN BY<br>CP | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br>#     | APPROVED<br>#  | DRAWING NO.<br>D3082                              | REV. A<br>SHEET 1 OF 1 |
| DATE<br>02.01.21 |                | TITLE<br>CLIP                                     | SCALE<br>NTS           |
| A                | 02.01.21       | NEW ISSUE   |                        |

## SPECIFICATION CONTROL DRAWING

DESCRIPTION: STEEL CLIP,  $\emptyset 0.75$

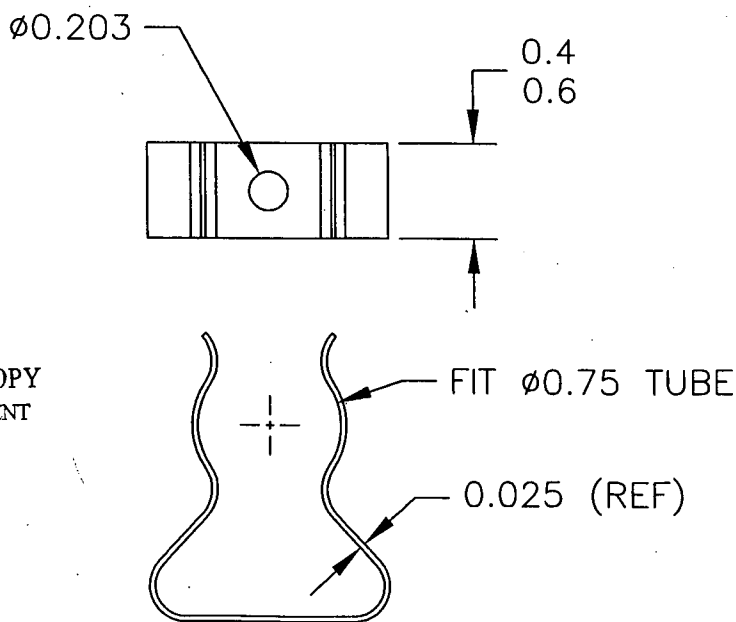
FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3

CAN MAKE FROM CRAWFORD PEG HOOKS, P/N #18612 (VENDOR: CANADIAN TIRE)

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE IN INCHES.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 44025



D3082-1 CLIP

RELEASED  
02.01.25 #

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**Chris Provencal**

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**From:** dshepherd@dartaero.com  
**Sent:** October 28, 2008 10:13 PM  
**To:** Chris Provencal  
**Subject:** Re: NCR D3082-1

I agree that the stainless steel clip from mcmaster is an acceptable deviation as long as we do a fit check to ensure that it fits and functions properly.

David

Sent from my BlackBerry device on the Rogers Wireless Network

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**From:** "Chris Provencal" <cprovencal@dartaero.com>  
**Date:** Tue, 28 Oct 2008 09:44:44 -0400  
**To:** 'David Shepherd' <dshepherd@dartaero.com>  
**CC:** 'Mike Petsche' <mpetsche@dartaero.com>; Linda Lacelle \Linda Lacelle\ <lindal@dartaero.com>  
**Subject:** FW: NCR D3082-1

David,

Linda needs to ship a D350-589-041, we need to substitute the clip. I left a phone message regarding this yesterday, this is the original email with some attachments.

-Chris

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**From:** Chris Provencal [mailto:cprovencal@dartaero.com]  
**Sent:** April 8, 2008 9:30 AM  
**To:** 'David Shepherd'  
**Cc:** 'Mike Petsche'  
**Subject:** NCR D3082-1

David,

Our supplier of the D3082-1 Clips has proven unreliable (Canadian Tire) which perhaps explains why Boeing didn't use Canadian Tire for the new 787. Anyhow, we have none in stock and Linda searched high and low for another source. We found these (pics), which are #1-B Adjustable Clips from the Arthur L Platt Company in Milford CT (through McMaster). They are nickel plated steel, the width is in dwg tol (0.440"). The mat'l thickness is over dwg dim at 1/32" (0.025 is ref anyway). The hole is made to thread with a #10 screw, it will have to be opened to 0.203" diam. The only issue I see with these (ref pic IMG 1065) is that the base is curved (RH pic), we can flatten them but the end result is a bit wavy (LH pic) but not overly so. These have been replaced with the gas strut, so I don't think we'll need too many of these. I think they're acceptable. I think we can sign these off as acceptable with no dwg update.

Additionally they have a SS version and a Nylon-coated steel version. If we were to use the Nylon one (IMG 1067.jpg) we could avoid powder coating them; Linda is keen on that one. The coating seems fairly durable and looks/feels like powder coat. If you're OK with that one, we could sign it off as a deviation on the finish, and look at updating the dwg whenever.

-Chris

2008-12-17